

CURRENT SITUATION OF SUNFLOWER BROOMRAPE AROUND THE WORLD

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Abstract

Broomrape (*Orobanche cumana* Wallr.) has a long history of parasitism on sunflower, longer than one century, starting with Russia and followed by other countries in Europe and in Asia. During this period, this serious parasite had some times characterized by different virulence degree, number of the parasite races and developed sunflower resistant genotypes. In the 1960-1970s period, Russian researchers identified the first two races of this parasite (A and B), after that, being identified other four races (C, D, E and F) as well as the sunflower differentials carrying the dominant genes for resistance, by the researchers in Romania and Spain. In the last years, some authors have communicated the appearance of the new, very virulent populations of broomrape, in different regions cultivated with sunflower, over the world. The recent studies indicated that the new broomrape populations which have been determined in some countries were called G, H or I races. However, there is a doubt in the description of races, in different countries, especially for recent races. So, sunflower breeders and geneticists have focused on solving this problem and they have achieved significant results, using different methods, specially molecular markers, for identifying broomrape races. In order to attain their breeding goals and identify sources of broomrape resistance, the breeders must develop a breeding strategy, secure the necessary germplasm and differential lines for broomrape races identification and chose the appropriate inoculation methods. As well as developing broomrape resistance genes, some research must be developed to understand the dynamics of broomrape populations and evolution. Clearfield system which it means IMI herbicides and resistant hybrids, combined with genetic resistance could be successful for controlling broomrape parasite.

Keywords: sunflower broomrape, races distribution, resistance, breeding, control methods